In the Claims

Please amend the claims as follows. Applicant has included herewith a complete claim set with insertions and deletions indicated by underlining and strikethrough, respectively.

1-14. (Canceled)

15. (Currently amended) A pharmaceutical preparation comprising

~~an~~ a nucleic acid agent which when administered to ~~the~~ a subject ex vivo enriches selectively the presence of complexes of a MHC molecule and a cancer associated antigen, and

a pharmaceutically acceptable carrier, wherein the cancer associated antigen is a fragment of a cancer associated antigen precursor encoded by a nucleic acid molecule comprising a nucleic acid molecule selected from the group consisting of (a) complements of nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of a nucleic acid sequence as set forth as SEQ ID NO:23 and which codes for a cancer associated antigen precursor, and (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, ~~and (c) complements of (a) or (b)~~

wherein the stringent conditions are hybridization at 65°C in hybridization buffer (3.5 x SSC, 0.02% Ficoll, 0.02% polyvinyl pyrrolidone, 0.02% Bovine Serum Albumin, 2.5mM NaH_2PO_4(pH7), 0.5% SDS, 2mM EDTA). and wherein SSC is 0.15M sodium chloride/0.015M sodium citrate, pH7; SDS is sodium dodecyl sulphate; and EDTA is ethylenediaminetetracetic acid.

16-18. (Canceled)

19. (Currently amended) The pharmaceutical preparation of claim 15, wherein the nucleic acid agent is selected from the group consisting of an isolated nucleic acid operably linked to a promoter for expressing the isolated polypeptide, and a host cell expressing the isolated polypeptide.

20-40. (Canceled)

41. (Currently amended) A pharmaceutical composition for ex vivo use comprising

an isolated nucleic acid molecule selected from the group consisting of (a) complements of nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of a nucleic acid sequence as set forth as SEQ ID NO:23 and which codes for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and (c) ~~complements of (a) or (b), and (d)~~ fragments of (a)~~,~~ or (b) ~~or (c)~~, which code for a polypeptide which, or a portion of which, binds an MHC molecule to form a complex recognized by an autologous antibody or lymphocyte, and

a pharmaceutically acceptable carrier,

wherein the stringent conditions are hybridization at 65°C in hybridization buffer (3.5 x SSC, 0.02% Ficoll, 0.02% polyvinyl pyrrolidone, 0.02% Bovine Serum Albumin, 2.5mM NaH_2PO_4(pH7), 0.5% SDS, 2mM EDTA) and wherein SSC is 0.15M sodium chloride/0.015M sodium citrate, pH7; SDS is sodium dodecyl sulphate; and EDTA is ethylenediaminetetracetic acid.

42-53. (Canceled)

54. (Currently amended) An isolated nucleic acid molecule comprising a nucleic acid molecule selected from the group consisting of (a) complements of nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of a nucleic acid sequence as set forth as SEQ ID NO:23, and which codes for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and (c) complements of (a) or (b),

wherein the stringent conditions are hybridization at 65°C in hybridization buffer (3.5 x SSC, 0.02% Ficoll, 0.02% polyvinyl pyrrolidone, 0.02% Bovine Serum Albumin, 2.5mM NaH_2PO_4(pH7), 0.5% SDS, 2mM EDTA) and wherein SSC is 0.15M sodium chloride/0.015M sodium citrate, pH7; SDS is sodium dodecyl sulphate; and EDTA is ethylenediaminetetracetic acid.

55. (Canceled)

56. (Currently amended) An isolated nucleic acid molecule selected from the group consisting of

(a) a fragment of a nucleic acid molecule having a nucleotide sequence as set forth as SEQ ID NO:23, ~~of sufficient length to represent a sequence unique within the mouse or human genomes, and which identifies it as a nucleic acid encoding a cancer associated antigen precursor~~ of at least 8 nucleotides,

(b) full length complements of (a),

provided that the isolated nucleic acid molecule includes a sequence of contiguous nucleotides which is not identical to the nucleic acid sequence represented by ~~GenBank accession number AI024421~~ SEQ ID NO:33.

57-59. (Canceled)

60. (Currently amended) An isolated expression vector comprising an isolated nucleic acid molecule of ~~claims~~ claim 54 operably linked to a promoter.

61. (Canceled)

62. (Currently amended) An isolated expression vector comprising a nucleic acid molecule of claim 15 and a nucleic acid encoding a MHC molecule.

63. (Canceled)

64. (Currently amended) An isolated host cell transformed or transfected with an expression vector of claim 60.

65. (Canceled)

66. (Currently amended) An isolated host cell transformed or transfected with an expression vector of claim 60 and further comprising a nucleic acid encoding a MHC molecule.

67-75. (Canceled)

76. (Currently amended) A kit for detecting the presence of the expression of a cancer associated antigen precursor comprising

a pair of isolated nucleic acid molecules each of which consists essentially of a molecule selected from the group consisting of (a) a 12-32 nucleotide contiguous segment of the nucleotide sequence of a nucleic acid molecule which hybridizes under stringent conditions to a molecule consisting of a nucleic acid sequence as set forth as SEQ ID NO:23 and which codes for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code and (c) complements of (a), wherein the ~~contiguous segments are non-overlapping~~ pair of isolated nucleic acid molecules do not overlap each other,

wherein the stringent conditions are hybridization at 65°C in hybridization buffer (3.5 x SSC, 0.02% Ficoll, 0.02% polyvinyl pyrrolidone, 0.02% Bovine Serum Albumin, 2.5mM NaH_2PO_4(pH7), 0.5% SDS, 2mM EDTA) and wherein SSC is 0.15M sodium chloride/0.015M sodium citrate, pH7; SDS is sodium dodecyl sulphate; and EDTA is ethylenediaminetetracetic acid.

77-121. (Canceled)

122. (Previously presented) The pharmaceutical preparation of claim 15, further comprising an adjuvant.

123. (Previously presented) The pharmaceutical preparation of claim 19, further comprising an adjuvant.

124. (Previously presented) The pharmaceutical preparation of claim 41, further comprising an adjuvant.

125. (Previously presented) The pharmaceutical preparation of claim 15, wherein the agent is a cell expressing the nucleic acid molecule and wherein the cell is nonproliferative.

126. (Previously presented) The pharmaceutical preparation of claim 15, wherein the agent is a cell expressing the nucleic acid molecule and wherein the cell expresses a MHC molecule.

127. (Currently amended) The pharmaceutical preparation of claim 15, wherein the agent comprises at least two, at least three, at least four or at least five nucleic acid molecules, each coding for a different polypeptide comprising a different cancer associated antigen, wherein at least one of the nucleic acid molecules is a nucleic acid molecule selected from the group consisting of (a) complements of nucleic acid molecules which hybridize under the stringent conditions to a molecule consisting of a nucleic acid sequence as set forth as SEQ ID NO:23 and which codes for a cancer associated antigen precursor, and (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code~~, and (c) complements of (a) or (b)~~.

128. (Previously presented) The pharmaceutical preparation of claim 126, wherein the cell expresses one or both of the nucleic acid molecule and the MHC molecule recombinantly.

129. (Previously presented) The pharmaceutical preparation of claim 126, wherein the cell is nonproliferative.

130. (Previously presented) The pharmaceutical composition of claim 41, wherein the isolated nucleic acid molecule comprises at least two isolated nucleic acid molecules coding for two different polypeptides, each polypeptide comprising a different cancer associated antigen.

131. (Previously presented) The pharmaceutical composition of claim 41 further comprising an expression vector comprising the isolated nucleic acid molecule operably linked to a promoter.

132. (Currently amended) The pharmaceutical composition of claim 41 further comprising an isolated host cell, wherein the host cell recombinantly expresses the isolated nucleic acid molecule.

133. (Currently amended) The isolated nucleic acid molecule of claim 56, wherein the fragment has a size selected from the group consisting of at least: ~~8 nucleotides,~~ 10 nucleotides, 12 nucleotides, 14 nucleotides, 16 nucleotides, 18 nucleotides, 20 nucleotides, 22 nucleotides, 24 nucleotides, 26 nucleotides, 28 nucleotides, 30 nucleotides, 50 nucleotides, 75 nucleotides, 100 nucleotides and 200 nucleotides.

134. (Previously presented) The isolated nucleic acid molecule of claim 56, wherein the isolated nucleic acid molecule encodes a polypeptide which, or a fragment of which, binds a MHC receptor or an antibody.

135-136. (Canceled)

137. (Currently amended) The kit of claim 76, wherein the pair of isolated nucleic acid molecules ~~is constructed and arranged to~~ selectively amplify an isolated nucleic acid molecule comprising a nucleic acid molecule selected from the group consisting of (a) nucleic acid molecules which hybridize under stringent conditions to a molecule consisting of a nucleic acid sequence as set forth as SEQ ID NO:23 and which codes for a cancer associated antigen precursor, (b) nucleic acid molecules that differ from the nucleic acid molecules of (a) in codon sequence due to the degeneracy of the genetic code, and (c) complements of (a) or (b).